

Work Order ID 130698

Monday, March 23, 2015 9:16:32 AM

130698

Page 1

Item ID: D5017-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Support, 214 Fwd
Start Date: 3/23/2015 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 3/23/2015 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: MCS Date: 1503-23 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D5017	A

100		0.00							
-----	--	------	--	--	--	--	--	--	--

100 HAAS CNC VERTICAL MACHINING #1

HAAS 1 Memo 0.00

HAAS CNC vertical machine #1

1-Machine as per Folio FB248
FOLIO REV: AA
DWG REV: A
2-Deburr

DAS
20
9-89 15-04-15
DAS
44
9-89 15/04/16

110		0.00							
-----	--	------	--	--	--	--	--	--	--

110 QC2- Inspect parts off machine FAI/FAIB

QC Memo 0.00

Quality Control

DAS
20
9-89 15-04-15

120		0.00							
-----	--	------	--	--	--	--	--	--	--

120 QC8- Inspect parts - second check

QC Memo 0.00

Quality Control

B.2 15/04/19 10 0 DAS
08
9-89

DQA:

Date:

15/05/21



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

15/05/19

Work Order update only ☐

Work Order: <u>130698</u> Part No. <u>DS071</u> NCR No. <u>154969</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☒</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coor. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☒	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☒	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	15-04-15	100	2	Rad for center pocket is .030". (Tolerance is .063 +/- .010) Modifications in the program were not changed on the folio	A.P. 15.04.15	Folio needs to be updated. ACCEPTABLE TO USE AS IS Folio updated 15/04/19 <u>lt</u>	DAS 20 9-82 15-04-15 A.P. 15.04.15	J.S. 15/04/19 DAS 08 9-23	PD 19-04-20
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☒ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☒ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge		
☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other		

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 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							DAS
130		20.00				10			41
HandFXtube	Memo	0.00							9-89
Hand Finishing Crosstubes	Per note 9 on page 1 of dwg D5017, Prep inner concave surface of support and apply 3M Scotch-Weld as per dwg. 24H of cure time. A/R SCOTCH-WELD BATCH: <u>130570</u>								15-4-23
140	QC3- Inspect Part Finish	0.00							DAS
140									38
QC	Memo	0.00							9-89
Quality Control									APR 24 2015
150	Identify as per dwg & Stock Location: <u>LG054</u>	0.00							DAS
150									06
Packaging	Memo	0.00							9-89
Packaging									

APR 27 2015

DQA:

Date:

15/05/15



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

15/05/13

Work Order update only ☐

Work Order: <u>130698</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS			
Part No. <u>DS017-1</u>		Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. <u>15-4954</u>		Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐
		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
		Large Fab ☐	Composite ☐	Supplier ☐	

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	15-04-15	100	1	Center rib is .116" (Tolerance is .140" to .180")	A.P.	Folio need to be updated	DAS 20 9-89		
Doc/Data				Origin "Z" was too low	15.04.15	ACCEPTABLE TO USE AS IS	15-04-15		
Equip/Tooling				Origin should be 6.00"		Folio updated 15/04/19	A.P.		
Handling/Pre				from table instead of off the top of jig.			15-04-15		
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☒ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge	☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.00							
Quality Control									

ML5 1504-27
ML5 1504-27

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Monday, March 23, 2015 9:16:36 AM

Page 1

Work Order ID: 130698

130698

Parent Item: D5017-1

D5017-1

Parent Item Name: Support, 214 Fwd

Start Date: 3/23/2015

Required Date: 3/23/2015

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV.A NEW ISSUE JFS 14/01/20 VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D5017-1TRN		Manufactured	No				Each	3.0000		10			
D5017-1TRN									**	<u>5</u>		DAS 20 9-88	15-04-14
Support, 214 Fwd													
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				MAT060			3						
				127816			3			<u>3</u>			
				130693						<u>2</u>			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

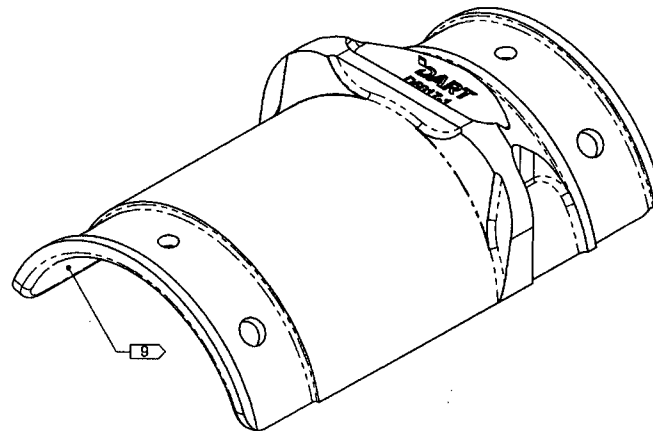
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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D5017-1 SUPPORT, 214 FWD

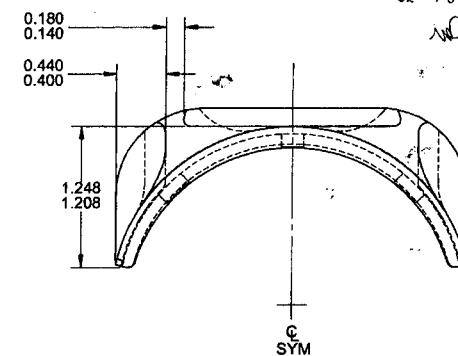
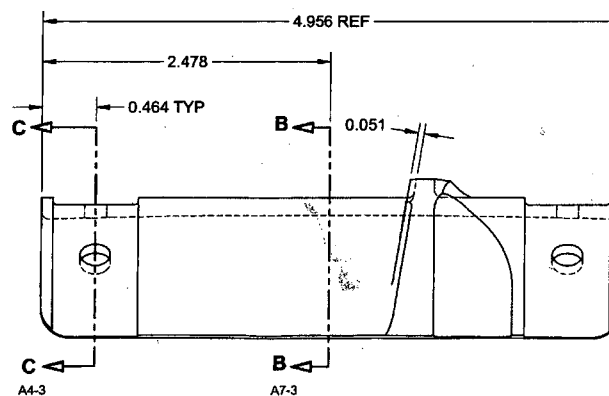
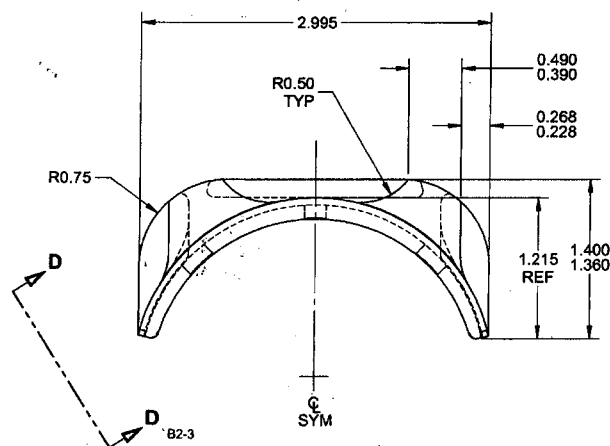
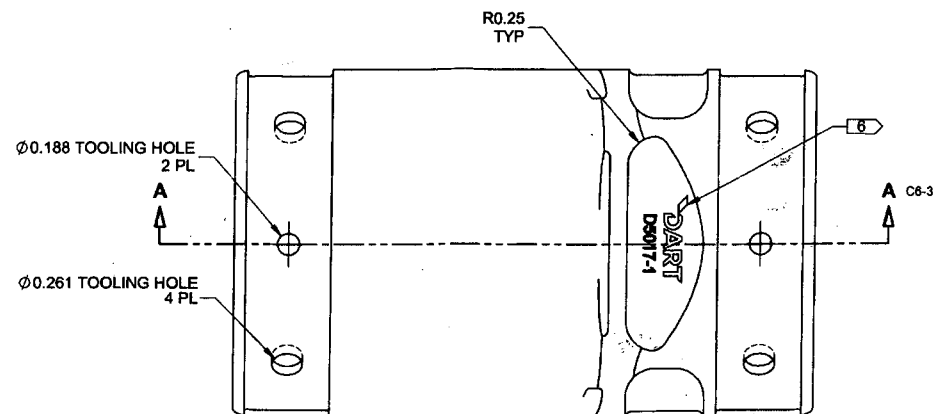
130698 MJS
150323

RELEASED
13 2014-02-10

NOTES:

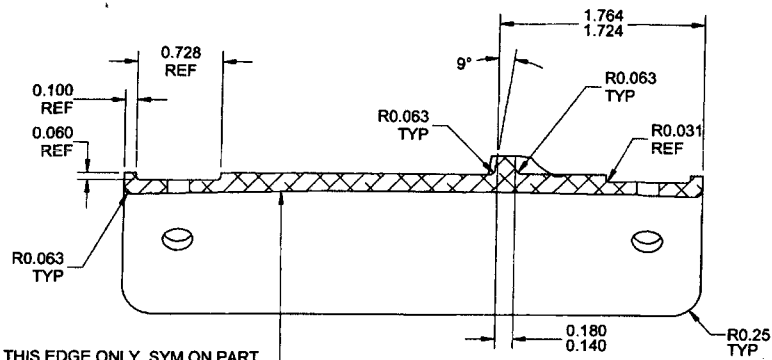
- 1) MATERIAL: MAKE FROM D5017-1TRN
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: DART LOGO AND P/N "D5017-1" IN THIS AREA WITH 0.125 HIGH X 0.010-0.020 DEEP LETTERING PER DART QSI 044 6.3
- 7) WEIGHT: 0.88 lbs
- 8) INNER CONCAVE SURFACE HAS A CONSTANT RADIUS OF R1.387 (REF) CUT ALONG AN R87.4 (REF) PATH (ie. TORUS SHAPE)
- 9) FOR ENTIRE INNER CONCAVE SURFACE: ABRASE SURFACE WITH 400-GRIT SANDPAPER. REMOVE RESIDUE WITH MEK (OR EQUIV.). APPLY 0.03" TO 0.05" THICK LAYER OF 3M SCOTCH-WELD 2216 B/A ADHESIVE TO MATING SURFACE OF SUPPORT. ALLOW TO CURE FOR 24 HOURS.

APPROVED	A NEW ISSUE		CP	13.11.28
	REV.	DESCRIPTION	BY	DATE
	DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	DRAWN	CP		
	CHECKED	AJS	DRAWING NO.	REV. A
	MFG. APPR.	JLM	D5017	SHEET 1 OF 4
	APPROVED	MP	TITLE	SCALE
	DE APPR.	DS	SUPPORT, 214 FWD	NTS
	DATE	13.11.28	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



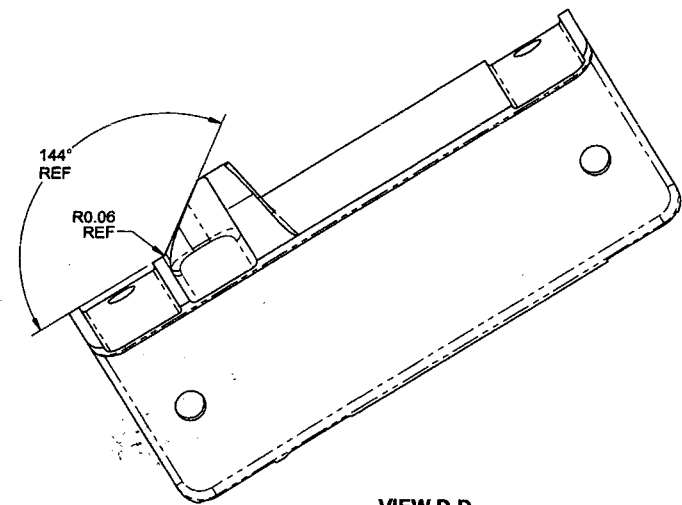
APPROVED	DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	DRAWN	CP		
	CHECKED	AJS	DRAWING NO.	REV. A
	MFG. APPR.	JLM	D5017	SHEET 2 OF 4
	APPROVED	MP	TITLE	SCALE
	DE APPR.	DS	SUPPORT, 214 FWD	NTS
DATE		13.11.28	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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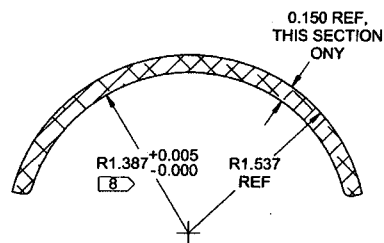


R87.4 THIS EDGE ONLY, SYM ON PART, R1.387 (REF) NORMAL TO THIS EDGE

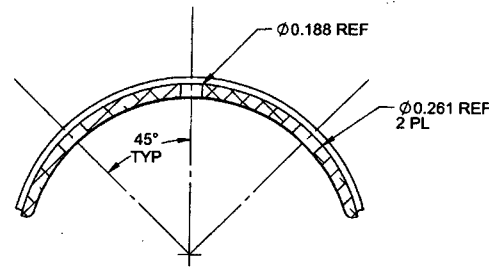
SECTION A-A
SCALE 1X D3-2



VIEW D-D
SCALE 1X A8-2



SECTION B-B
ONLY CUT FACES SHOWN
SCALE 1X A4-2

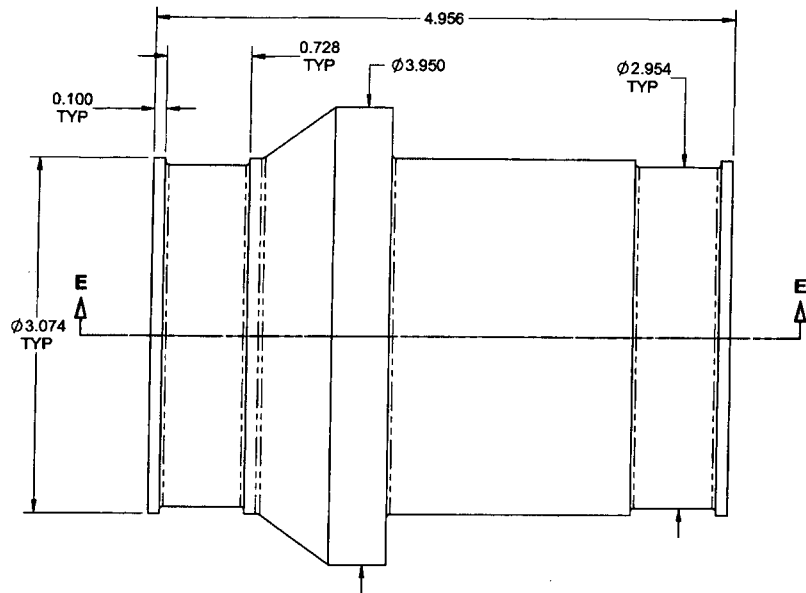


SECTION C-C
TOOLING HOLE DETAIL
2 PL, SCALE 1X A5-2

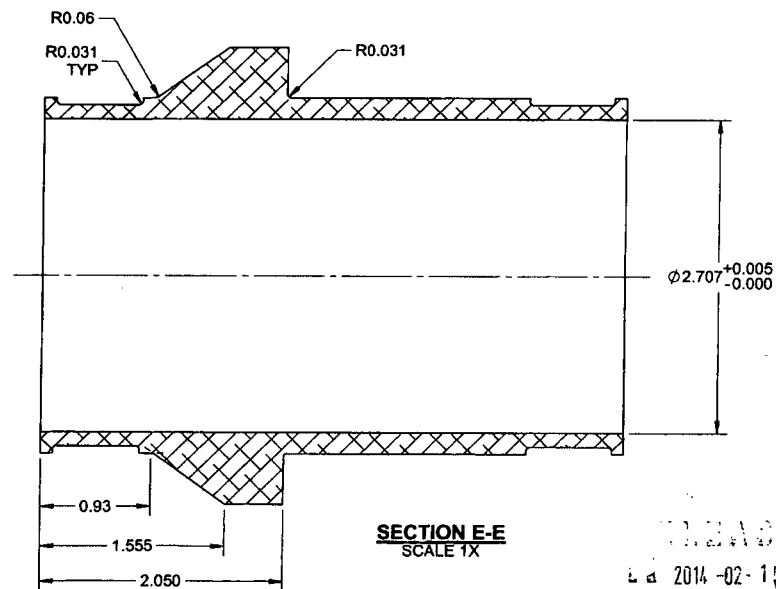
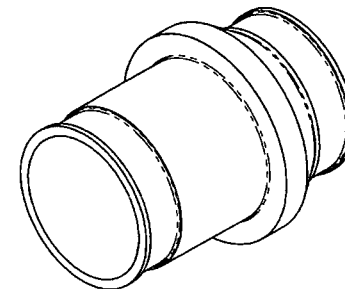
RELEASED
2014-02-14
JWD

APPROVED	DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
	DRAWN	CP		
	CHECKED	AJS	DRAWING NO. D5017	REV. A
	MFG. APPR.	JLM	SHEET 3 OF 4	
	APPROVED	MP	TITLE	SCALE
	DE APPR.	DS	SUPPORT, 214 FWD	NTS
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8 7 6 5 4 3 2 1



D5017-1TRN TURNING DETAIL



SECTION E-E
SCALE 1X

NOTES:

- 1) MATERIAL: 17-4PH STAINLESS STEEL, H900 OR H925 CONDITION
MIN UTS = 170 KSI (38 HRC)
REF DART SPEC. D6104
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: NONE
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 3.21 lbs

APPROVED

DESIGN	CP
DRAWN	CP
CHECKED	AJS
MFG. APPR.	JLM
APPROVED	MP
DE APPR.	DS
DATE	13.11.28

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. REV. A
D5017 SHEET 4 OF 4
TITLE SCALE
SUPPORT, 214 FWD NTS

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